

VERSION SHOWING THE CHANGES TO THE CLAIMS

1 (Currently amended). A light emitting device (LED) ~~A driving circuit for a light emitting device~~[[,]] comprising wherein:

an LED manifesting a first frequency response curve property; and

said a driving circuit for the LED having an output signal that manifests a second frequency response curve property, the driving circuit output signal has a-for driving the LED wherein the second property manifests driving unit having a frequency response curve indicating opposite to the first frequency response curve property to a frequency response curve of said light emitting device.

2 (Currently amended). The LED ~~driving circuit for said light emitting device~~ according to claim 1, wherein:

said driving circuit unit comprises a power ~~outputting type~~ amplifier having an output signal having a gain curve increasing with a gradient of ca. 6dB/oct starting from a cut-off frequency of said light emitting device.

3 (Currently amended). The LED ~~driving circuit for said light emitting device~~ according to claim 2, wherein:

said amplifier comprises a frequency generating unit for generating a signal manifesting a desired frequency and a current multiplier unit constituted by a current mirror circuit.

4 (Currently amended). A driving method for driving a light emitting device (LED) comprising, wherein:

driving said light emitting device ~~is driven by~~ with a driving unit circuit generating a signal having a frequency response output curve indicating manifesting an opposite property relative to the property of a frequency response curve of said light emitting device.

5 (Currently amended). The driving method for driving said light emitting device according to claim 4 wherein:

~~said light emitting device is driven by said driving unit~~ driving step comprises driving the LED with an output signal generated by a power outputting ~~type~~ amplifier having a gain curve increasing with a gradient of ~~ca. 6dB/oct~~ starting from a cut-off frequency of said light emitting device.

6 (Currently amended). The LED driving ~~circuit for said light emitting device~~ according to claim 1, wherein:

said driving circuit ~~unit~~ comprises a power ~~outputting type~~ amplifier having an output signal exhibiting a gain curve having said second property which ~~increases~~ ing with a predetermined gradient starting from a cut-off frequency of said light emitting device, wherein:

said amplifier comprises:

a frequency generating unit for generating a signal at a desired

frequency;

a current multiplier unit constituted by a current mirror circuit; and

a discharge circuit for applying a reverse current distributed from said current multiplier unit to said light emitting device.

7 (Currently amended). The LED driving circuit for said light emitting device according to claim 6, wherein:

said discharge circuit includes ~~has~~ a capacitor connected between a terminal coupled to the current mirror circuit and the LED for outputting the distributed current from said current multiplier circuit at said terminal to ~~and~~ said light emitting device, wherein:

a voltage source having fluctuations in its voltage ~~change~~ or impedance synchronized with the a driving current of the output signal of said driving circuit of said light emitting, is connected to said terminal ~~for outputting the distributed current~~.

8 (Currently amended). The driving method for said light emitting device according to claim 4, wherein:

the step of driving said light emitting device with ~~by~~ said driving circuit unit ~~comprising~~:

a frequency generating unit having generating an LED drive signal having a gain curve manifesting said frequency response output curve, said gain

curve increasing with a predetermined gradient starting from a cut-off frequency of said light emitting device, ~~and said generating for generating the drive signal~~ with a power outputting-type amplifier which includes a frequency generating unit and a having current multiplier unit constituted by a current mirror circuit for generating a reverse current; and

distributing the ~~[[a]]~~ reverse current from said current multiplier unit to said light emitting device ~~by a discharge circuit.~~

9 (Currently amended). The driving method for said light emitting device according to claim 8, wherein:

said distributing includes distributing the reverse current with a discharge circuit ~~has a capacitor~~ connected between a current multiplier unit terminal- and the light emitting device for outputting the distributed current from said current multiplier unit circuit ~~and to~~ said light emitting device, ~~wherein:~~

~~a reverse current is applied to said light emitting device from said capacitor.~~

10 (Currently amended). An optical communication apparatus equipped with a ~~driving circuit for a~~ light emitting device circuit specified in any ~~either~~ one of claims 1, 2, 3, 6 or 7.

ADD THE FOLLOWING CLAIMS:

11 (New). The LED circuit of claim 2 wherein the output signal gain curve increases with a gradient of ca. 6dB/oct.

12 (New). The method of claim 5 wherein the output signal gain curve increases with a gradient of ca. 6dB/oct.

13 (New). The method of claim 9 including distributing the reverse current with a capacitor.

14 (New). A light emitting device circuit comprising:

a light emitting device (LED) exhibiting a first frequency response curve having a first frequency cut off point, the response curve decreasing in magnitude with respect to the first frequency cut off point; and

a power amplifier for generating a drive signal for driving the LED, the drive signal manifesting a second frequency response curve having a second frequency cut off point, the second curve increasing in magnitude with respect to the second frequency cut off point such that the frequency cut off point of the LED in response to being driven by said drive signal is significantly greater than the first cut off point.

15 (New). The circuit of claim 14 wherein the first and second frequency cut off points are substantially at the same frequency.

16 (New). The circuit of claim 14 wherein the increasing and decreasing values of the first and second response curves are approximately at ca. 6dB/oct.

17 (New). The circuit of claim 14 wherein the power amplifier comprises a first signal generating unit for generating a current output signal at a given frequency and a current multiplier unit for multiplying the value of the current output signal for driving the LED.

18 (New). The circuit of claim 17 wherein the current multiplier unit includes a current mirror circuit.

19 (New). The circuit of claim 17 including a discharge circuit for coupling the current multiplier unit to the LED.

20 (New). The circuit of claim 19 wherein the discharge circuit includes a capacitance coupled between the current multiplier unit and the LED.